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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/994,267	11/26/2001	Andre Beaudin	13587.32	8609
22913	7590	11/01/2005		
WORKMAN NYDEGGER (F/K/A WORKMAN NYDEGGER & SEELEY) 60 EAST SOUTH TEMPLE 1000 EAGLE GATE TOWER SALT LAKE CITY, UT 84111			EXAMINER LUGO, DAVID B	
			ART UNIT 2637	PAPER NUMBER

DATE MAILED: 11/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/994,267

Applicant(s)

BEAUDIN, ANDRE

Examiner

David B. Lugo

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 12-14 is/are rejected.
- 7) ☒ Claim(s) 4-11 and 15-19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 8/24/05 have been fully considered but they are not persuasive. Applicant argues that there is no suggestion to combine the cited references because the cited references perform different functions for different purposes. Applicant argues that Lillie et al. do not disclose a phase accumulator for producing a combined I and Q signal pair according to claims 1 or 12. Applicant further argues that Upadhyay et al. do not teach a diversity combiner. The Examiner respectfully disagrees. As indicated in the previous Office action, Lillie et al. disclose a phase accumulator 204 that receives I and Q channel signals, and outputs integrated I' and Q' channel outputs, as shown in Fig. 2. Upadhyay et al. is considered to teach a diversity combiner in Fig. 5, as I and Q channel signals from different paths received on different antennas of an antenna array (Fig. 3) are combined via adders 32. The antenna array provides diversity, as it receives different phase shifted versions of the received signal (see abstract). Both references relate to the field of reception of wireless communication signals. It is considered to have been obvious to combine the teachings of a diversity combiner as taught by Upadhyay et al. in the receiver of Lillie et al. in order to provide reception diversity.

Applicant argues that the phase accumulator of Lillie et al. do not relate to the claimed phase accumulator, because it does not accumulate combined discriminated I and Q vectors. However, in the combination of Lillie et al. with Upadhyay et al., the signals output from the combiner of Upadhyay et al. which are supplied to the demodulator of Lillie et al. are considered discriminated I and Q vectors. Thus, the proposed combination is considered to teach that the signals received by the phase accumulator are discriminated I and Q signals.

Applicant further argues that the digital combiner 31 of Figure 5 is not a discriminator. However, the digital combiner 31 of Upadhyay et al. is broadly considered to be a discriminator as it performs the recited function of the claimed discriminator, which is to produce an I and Q vector having a phase representative of the frequency of the information signals and an amplitude proportional to the power of the information signals from inputted I and Q sample streams. Applicant states that the combiner 31 of Upadhyay et al. cannot be a discriminator because a delay would have to be used. However, it is noted that the discriminator of claim 1 or claim 12 is not recited to include a delay. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

The cited prior art is considered to teach all of the limitations of claims 1-3 and 12-14, and sufficient motivation to combine the references is provided. The rejection of claims 1-3 and 12-14 is maintained, and is restated below.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3 and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lillie et al. U.S. Patent 4,675,882 in view of Upadhyay et al. U.S. Patent 6,115,409.

Regarding claims 1 and 12, Lillie et al. disclose a receiver in Figure 2 comprising a phase accumulator 204 for outputting an I and Q signal pair based on baseband I and Q inputs, but do

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not disclose that the receiver is used along with a diversity combiner comprising a discriminator for producing discriminated I and Q vectors, and adders for adding for each set of sampled vectors, the discriminated I signals to produce a combined discriminated I signal, and the discriminated Q signals to produce a discriminated Q signal.

Upadhyay et al. disclose a diversity combiner in Figure 3 comprising an antenna pattern former 30 (Fig. 5) having discriminators 31 for producing discriminated I and Q signals, and adders 32 for producing a combined discriminated I signal and a combined discriminated Q signal from the discriminated I and Q signals (col. 9, line 54 to col. 10 line 3).

It would have been obvious to one of ordinary skill in the art to use the teaching of diversity reception disclosed by Upadhyay et al. in the system of Lillie et al. in order to provide diversity reception of the transmitted signals.

Regarding claims 2 and 13, the discriminators 31 of Upadhyay et al. are complex discriminators.

Regarding claims 3 and 14, the signals in the system of Lillie et al. receives FM signals.

Allowable Subject Matter

4. Claims 4-11 and 15-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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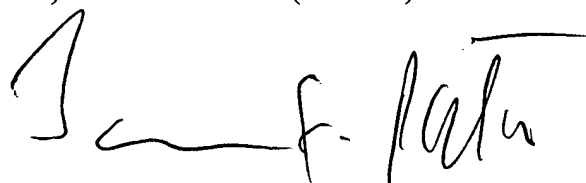
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David B. Lugo whose telephone number is 571-272-3043. The examiner can normally be reached on M-F; 9:30-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

David Lugo
10/28/05



JAY K. PATEL
SUPERVISORY PATENT EXAMINER